LineUp with Math^{TM} **Alignment** **Core Curriculum Content Standards for** **Mathematics**

STANDARD 4.1 NUMBER AND NUMERICAL OPERATIONS
All students will develop number sense and will perform standard numerical operations and estimations on all types of numbers in a variety of ways.

Strand 4.1.8 A. Number Sense

Cumulative Progress Indicators	*LineUp with Math*^{TM} **Activities**
3. Understand and use ratios, proportions, and percents (including percents greater than 100 and less than 1) in a variety of situations.	--Use an interactive simulator plus calculation worksheets to apply proportional reasoning to identify and resolve distance, rate, time conflicts in air traffic control. --Use percent relationships to resolve distance, rate, time conflicts in air traffic control.

Strand 4.1.8 B. Numerical Operations

Cumulative Progress Indicators	*LineUp with Math*^{TM} **Activities**
4. Solve problems involving proportions and percents.	--Use an interactive simulator plus calculation worksheets to apply proportional reasoning to identify and resolve distance, rate, time conflicts in air traffic control. --Use percent relationships to resolve distance, rate, time conflicts in air traffic control.

STANDARD 4.2 GEOMETRY AND MEASUREMENT
All students will develop spatial sense and the ability to use geometric properties, relationships, and measurement to model, describe and analyze phenomena.

Strand 4.2.8 D. Units of Measurement

Cumulative Progress Indicators	*LineUp with Math*^{TM} **Activities**
4. Select and use appropriate units and tools to measure quantities to the degree of precision needed in a particular problem-solving situation.	--Apply mathematics to solving distance, rate, and time problems for aircraft conflict scenarios. --Use an interactive simulator plus calculation worksheets to model and resolve air traffic control conflicts.
6. Solve problems that involve compound measurement units, such as speed (miles per hour), air pressure (pounds per square inch), and population density (persons per square mile).	--Apply mathematics to solving distance, rate, and time problems for aircraft conflict scenarios.

STANDARD 4.3 PATTERNS AND ALGEBRA
All students will represent and analyze relationships among variable quantities and solve problems involving patterns, functions, and algebraic concepts and processes.

Strand 4.3.8 C. Modeling

Cumulative Progress Indicators	LineUp with Math™ Activities
1. Analyze functional relationships to explain how a change in one quantity can result in a change in another, using pictures, graphs, charts, and equations.	--Apply mathematics to solving distance, rate, and time problems for aircraft conflict scenarios. --Use an interactive simulator plus calculation worksheets to model and resolve air traffic control conflicts. --Identify and resolve distance, rate, time conflicts in air traffic control problems by varying plane speeds or changing plane routes.

STANDARD 4.5 MATHEMATICAL PROCESSES
All students will use mathematical processes of problem solving, communication, connections, reasoning, representations, and technology to solve problems and communicate mathematical ideas.

Strand 4.5 A. Problem Solving

Cumulative Progress Indicators	LineUp with Math™ Activities
2. Solve problems that arise in mathematics and in other contexts. • Open-ended problems • Non-routine problems • Problems with multiple solutions • Problems that can be solved in several ways	--Apply mathematics to solving distance, rate, and time problems for aircraft conflict scenarios.
3. Select and apply a variety of appropriate problem-solving strategies (e.g., "try a simpler problem" or "make a diagram") to solve problems.	--Use an interactive simulator plus calculation worksheets to model and resolve air traffic control conflicts. --Choose and apply a variety of strategies to optimize the solution of air traffic control conflicts.

Strand 4.5 B. Communication

Cumulative Progress Indicators	LineUp with Math™ Activities
2. Communicate mathematical thinking coherently and clearly to peers, teachers, and others, both orally and in writing.	--Predict and resolve aircraft conflicts and explain results of mathematical calculations and simulations.
4. Use the language of mathematics to express mathematical ideas precisely.	--Use an interactive simulator plus calculation worksheets to model and resolve air traffic control conflicts. --Predict and resolve aircraft conflicts and explain results of mathematical calculations and simulations.

Strand 4.5 C. Connections

Cumulative Progress Indicators	*LineUp with Math*^{TM} Activities
3. Recognize that mathematics is used in a variety of contexts outside of mathematics.	--Apply mathematics to solving distance, rate, and time problems for aircraft conflict scenarios.
4. Apply mathematics in practical situations and in other disciplines.	--Apply mathematics to solving distance, rate, and time problems for aircraft conflict scenarios.

Strand 4.5 E. Representations

Cumulative Progress Indicators	*LineUp with Math*^{TM} Activities
3. Use representations to model and interpret physical, social, and mathematical phenomena.	--Use an interactive simulator plus calculation worksheets to model and resolve air traffic control conflicts.

Strand 4.5 F. Technology

Cumulative Progress Indicators	*LineUp with Math*^{TM} Activities
1. Use technology to gather, analyze, and communicate mathematical information.	--Use an interactive simulator plus calculation worksheets to model and resolve air traffic control conflicts.